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The Child Dental Health Survey Australian Capital Territory, 1989

by

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THE CHILD DENTAL HEALTH SURVEY - NEW SOUTH WALES 1989

Purpose of this report

This report provides descriptive findings from the Australian Capital Territory component of the Child Dental Health Survey. Information listed in the tables includes: the age and sex of children in the sample, their deciduous and permanent caries experience, frequency of fissure sealants, immediate treatment needs and children's history of school dental service examinations. These data were collected between August and December 1989 by a sampling procedure which randomly selected approximately one in 2 (1:1.9) children. This was achieved by selecting those children whose birthday was between the 1st and 16th (inclusive) of any month. Where a child's date of birth was unknown, they were fully enumerated, and the data in all tables are weighted to correct for the over-representation in the sample of children for whom date of birth is unknown. The following sections briefly describe each table.

Table 1: Demographic composition of the sample

The majority of children in the sample are aged between five and twelve years (inclusive), and this age composition is closely related to the main target groups of children served by the School Dental Service in the Australian Capital Territory. For this reason, and because of the short collection period for the present report, children aged 4 years or 13 years and over are represented in smaller proportions than they would appear in the Australian Capital Territory population. Moreover, the small numbers of sampled children in these age groups results in less reliability of several computed statistics in subsequent tables and they have been suppressed where indicated. It is also important to note that the children who are outside the main target groups may differ on other key characteristics and statistics relating to children aged 4 years or 13 years and over may be less representative of the Australian Capital Territory population.

Table 3: Deciduous teeth: age-specific prevalence

The dmft prevalence in children aged 5 to 9 varies across a reasonably narrow range, with an average of between 1.12 and 1.47. The range in the mean number of decayed teeth in these ages is similar (0.46 to 0.84), although this represents an almost two-fold difference in decay prevalence from 9 year olds to 5 year olds. Four year olds have an exceptionally high prevalence of both decayed and dmft teeth which, despite the small number of children, is statistically reliable. However it is important to note that statistical reliability is independent of representativeness, and in this instance it is most probable that the 24 four year olds are children who differ in several characteristics from the child population in the Australian Capital Territory.

The decline in dmft over the age of 9 should clearly be interpreted as an effect due to exfoliation of deciduous teeth as children grow older. It will be noted that the dmft prevalence is not substantially lower than that observed in 1986, particularly for five year olds. While these differences may be due in part to differences in the sampled population, it should also be recalled that the index now includes teeth which are missing due to caries - a category which was not recorded in 1986 when the dift index was used. This modification to the index may account for the apparently modest decline in dmft prevalence.

Also apparent from this table is the magnitude of the d/dmf percentage, particularly in the youngest children aged 5 and 6 years where more than sixty percent of the dmft index is due to decayed teeth. Finally, it is noteworthy that more than one half of children aged five and over have no deciduous caries experience (percentage with dmft=0).

Table 4: Permanent teeth: age specific prevalence

Compared with the deciduous dentition, there is a smaller mean number of decayed teeth in the permanent dentition for all ages up to 12 years. While the prevalence of decayed teeth is reasonably constant, the mean DMFT increases fairly consistently across age groups, although the difference between 11 and 12 year olds may be larger than expected. Several statistics for the principal age groups (5 to 12 years) have high relative standard errors and have been suppressed in this table. In the case of 12 year olds, this can be attributed to the relatively smaller number of children in the sample. However, for five and six year olds, the high relative standard error is attributable to very small means (0.06 or less) which would demand extremely small amounts of sample variation in order to be reliable at the level of a 25 per cent relative standard error.

This table also demonstrates that a relatively high percentage of the DMFT index is attributable to untreated decay in younger children as reflected in the D/DMFT percentage. However in children aged 10 years or more, less than 30 per cent of the DMFT index is due to untreated decay. In most ages, the D/DMFT percentage is similar to the corresponding percentage in the deciduous dentition. More than one half of children in all ages have no caries experience in the permanent dentition (percent with DMFT=0) and indeed for children aged less than 10 years, more than three quarters have never experienced caries.

Table 5: All teeth: age specific prevalence

The information in this table indicates firstly that approximately 30 per cent of children in the key age groups (5 to 12 years) have at least one tooth with untreated decay in the permanent or deciduous dentition. This figure is quite consistent among all ages. For the majority of children with untreated decay, only one or two teeth are detected, with fewer than 10 per cent of all children having three or more teeth decayed. There is a very low frequency of extensive decay, particularly in the older ages with fewer than five per cent of children aged over 7 years having four or more decayed teeth.

This table also shows the very high percentage of children of all ages who have no teeth missing due to caries. Finally, this table demonstrates the clear pattern of age-associated reduction in the percentage of children who are free of filled or decayed, missing and filled teeth. With regard to the last of these statistics, it is encouraging to observe that more than one third (and as many as two thirds) of children in the key age groups have no caries experience in the combined deciduous and permanent dentitions.

Table 6: Fissure sealants

It is apparent that fissure sealants are present in meaningful numbers of children aged between 8 and 12 years inclusive. It is worth noting that the mean number of fissure sealants in these ages is consistently greater than the mean number of decayed permanent teeth (Table 4). The table further divides the sample into children with no caries experience in the permanent dentition (DMFT=0) and those with some caries experience (DMFT=1+). Fissure sealants are somewhat more frequent in children who have some caries experience, and this may indicate the preferential use of fissure sealants in cases of high risk.

Table 7: Immediate treatment needs

The categorisation of immediate treatment needs is a new item in the redesigned Child Dental Health Survey, and in this table the distribution of children with immediate treatment needs and some of their oral health characteristics are displayed. Very low percentages of children (3 per cent or less) in need of immediate treatment were reported in all key age groups. Four year old children are an exception, although the comments with respect to Table 3 should be born in mind, namely that these 24 children are probably unrepresentative of the Australian Capital Territory child population. In view of the very small numbers of children with immediate treatment needs it is difficult to construct any meaningful interpretations from the remaining parts of this table.

Table 8: School Dental Service examinations

This table divides into a left and right portion. The percentage of all children who have had a previous School Dental Service examination is shown in columns 3 to 5, and indicates that more than 80 per cent of children aged 7 or more had previously been examined within the Australian Capital Territory School Dental Service. This pattern is expected, and is consistent with a small level of migration into or out of the School Dental Service.

In columns 6 to 9, the group of children with a known previous examination in the School Dental Service is described with regard to the time since their last examination. The majority of re-examined children in all ages had received their last examination more than 1 year but less than 2 years previously. Most other children had been examined within the previous 7 to 12 months. This pattern was reasonably consistent across age groups, although children aged over 8 years were slightly more likely to be examined in the longer recall period. Very few children in all ages had been examined within the previous six months, or more than two years previously.

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TABLE 1: DEMOGRAPHIC COMPOSITION OF THE SAMPLE

Data for the Child Dental Health Survey are collected from a stratified random sample of children in all Australian States and Territories. The sampling procedure selects a constant proportion of children for whom date of birth is known by selecting only those children born on particular dates. In the ACT the sampling ratio for children whose date of birth is known is 1:1.9. This ratio is achieved by selecting children whose date of birth is between the 1st and 16th (inclusive) of any month. In addition, all children for whom date of birth is unknown are included in the sample.

The following table describes the number of records processed from children in the Australian Capital Territory, as well as the number of children in the sample. The latter figure is weighted to attach more weight to those records which are sampled, and less weight to those records which are fully enumerated. The weighting corrects for the over-representation in the sample of children for whom date of birth is unknown.

State/Territory AUSTRALIAN CAPITAL TERRITORY

Sampling Ratio: 1:1.9

Data for period August-December 1989

Date of Report: August 31, 1990

| Age | NUMBER OF RECORDS PROCESSED | | | | | | NUMBER OF CHILDREN IN SAMPLE ¹ | | |
|--------------|-----------------------------|-------------|-------------|----------------|----------|----------|---|-------------|-------------|
| | TYPE OF SAMPLING | | | | | | Males | Females | Persons |
| | Known Date of Birth | | | Age Only Known | | | | | |
| | Males | Females | Persons | Males | Females | Persons | | | |
| 4 or less | 13 | 11 | 24 | 0 | 1 | 1 | 13 | 11 | 24 |
| 5 | 158 | 150 | 308 | 1 | 0 | 1 | 159 | 150 | 309 |
| 6 | 266 | 210 | 476 | 2 | 1 | 3 | 267 | 211 | 478 |
| 7 | 253 | 254 | 507 | 0 | 0 | 0 | 253 | 254 | 508 |
| 8 | 222 | 232 | 454 | 0 | 0 | 0 | 222 | 232 | 455 |
| 9 | 202 | 254 | 456 | 0 | 0 | 0 | 202 | 254 | 457 |
| 10 | 212 | 205 | 417 | 0 | 0 | 0 | 212 | 205 | 418 |
| 11 | 226 | 243 | 469 | 0 | 1 | 1 | 226 | 244 | 470 |
| 12 | 97 | 98 | 195 | 1 | 0 | 1 | 98 | 98 | 196 |
| 13 | 7 | 2 | 9 | 0 | 0 | 0 | 7 | 2 | 9 |
| 14 | 1 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 1 |
| 15 or more | 2 | 2 | 4 | 0 | 0 | 0 | 1 | 1 | 3 |
| Total | 1659 | 1661 | 3320 | 4 | 3 | 7 | 1663 | 1664 | 3327 |

¹ The number of children included in the sample equals the number of records sampled where date of birth is known plus the product of the number of records of children with unknown birthdate and sampling ratio. Second and subsequent examinations of children within the reporting period are eliminated. These are rounded numbers of children.

TABLE 2: COUNTRY OF BIRTH (INCLUDING ABORIGINALITY)

These data were not collected in the Australian Capital Territory
during the period August - December, 1989

TABLE 3: DECIDUOUS TEETH: AGE-SPECIFIC PREVALENCE¹

This table uses Territory-wide data to describe the dmft index and its components for individual (year of birth) ages. Indices are calculated from data collected over a 6 month period. Where children received more than one examination during this period, the information derived from examinations other than the first is excluded. Age-specific indices denoted with an asterisk (*) are those in which the relative standard error exceeds 25 per cent, and population estimates of these indices are statistically unreliable.

State/Territory AUSTRALIAN CAPITAL TERRITORY

Sampling Ratio: 1:1.9

Data for period August-December 1989

Date of Report: August 31, 1990

| Age (years) | Number of Children in Sample ² | decayed | | dmft | | d/dmft | Children with dmft=0 |
|----------------|---|---------|------|------|------|--------|-------------------------|
| | | mean | sd | mean | sd | % | % |
| 4 | 24 | 3.24 | 3.67 | 3.28 | 3.78 | 99.6 | 26.2 |
| 5 | 309 | 0.84 | 1.86 | 1.12 | 2.28 | 79.5 | 64.7 |
| 6 | 478 | 0.72 | 1.58 | 1.17 | 2.20 | 62.2 | 64.0 |
| 7 | 508 | 0.66 | 1.46 | 1.36 | 2.41 | 51.0 | 60.7 |
| 8 | 455 | 0.53 | 1.18 | 1.37 | 2.11 | 39.6 | 55.3 |
| 9 | 457 | 0.46 | 0.98 | 1.47 | 2.10 | 31.7 | 53.7 |
| 10 | 418 | 0.37 | 0.88 | 1.34 | 1.96 | 28.4 | 53.7 |
| 11 | 470 | 0.23 | 0.61 | 1.06 | 1.83 | 24.7 | 59.4 |
| 12 | 196 | * | * | 0.48 | 1.11 | 17.2 | 78.0 |

¹ Legend: d - decayed deciduous teeth
dmft - decayed, missing or filled deciduous teeth
sd - standard deviation

² Data are weighted to correct for the over-representation in the sample of children for whom date of birth is unknown. Data relating to second or subsequent examinations of children within this reporting period are eliminated.

TABLE 4: PERMANENT TEETH: AGE-SPECIFIC PREVALENCE¹

This table uses Territory-wide data to describe the DMFT index and its components for individual (year of birth) ages. Indices are calculated from data collected over a 6 month period. Where children received more than one examination during this period, the information derived from examinations other than the first is excluded. Age-specific indices denoted with an asterisk (*) are those in which the relative standard error exceeds 25 per cent, and population estimates of these indices are statistically unreliable.

State/Territory AUSTRALIAN CAPITAL TERRITORY

Sampling Ratio: 1:1.9

Data for period August-December 1989

Date of Report: August 31, 1990

| Age (years) | Number of Children in Sample ² | DECAYED | | DMFT | | D/DMFT | Children with DMFT=0 |
|----------------|---|---------|------|------|------|--------|-------------------------|
| | | mean | sd | mean | sd | % | % |
| 5 | 309 | * | * | * | * | * | 98.1 |
| 6 | 478 | * | * | * | * | 84.4 | 96.8 |
| 7 | 508 | 0.09 | 0.42 | 0.13 | 0.49 | 69.2 | 91.5 |
| 8 | 455 | 0.11 | 0.44 | 0.28 | 0.70 | 42.4 | 83.5 |
| 9 | 457 | 0.16 | 0.48 | 0.41 | 0.86 | 40.0 | 75.4 |
| 10 | 418 | 0.20 | 0.90 | 0.58 | 1.22 | 29.0 | 70.5 |
| 11 | 470 | 0.20 | 0.54 | 0.76 | 1.16 | 27.9 | 61.6 |
| 12 | 196 | * | * | 1.14 | 2.24 | 19.0 | 55.8 |
| 13 | 9 | - | - | * | * | - | 66.7 |
| 14 | 1 | - | - | - | - | - | * |
| 15 | 3 | - | - | * | * | - | * |

¹ Legend: D - decayed permanent teeth
DMFT - decayed, missing or filled permanent teeth
sd - standard deviation

² Data are weighted to correct for the over-representation in the sample of children for whom date of birth is unknown. Data relating to second or subsequent examinations of children within this reporting period are eliminated.

TABLE 5: ALL TEETH: AGE-SPECIFIC PREVALENCE¹

This table uses Territory-wide data to describe the combined dmft and DMFT indices and their components for individual (year of birth) ages. Indices are calculated from data collected over a 6 month period. Where children received more than one examination during this period, the information derived from examinations other than the first is excluded. Age-specific indices denoted with an asterisk (*) are those in which the relative standard error exceeds 25 per cent, and population estimates of these indices are statistically unreliable.

State/Territory AUSTRALIAN CAPITAL TERRITORY

Sampling Ratio: 1:1.9

Data for period August-December 1989

Date of Report: August 31, 1990

| Age (years) | Number of Children in Sample ² | % of Children with d+D= | | | | | % of Children with | | |
|----------------|---|-------------------------|------|------|-----|------|--------------------|-------|-------------|
| | | 0 | 1 | 2 | 3 | 4+ | m+M=0 | f+F=0 | dmft+DMFT=0 |
| 4 or less | 24 | 26.2 | * | * | * | 32.8 | 95.9 | * | 26.2 |
| 5 | 309 | 68.2 | 11.7 | 9.1 | 3.9 | 7.1 | 97.4 | 90.3 | 63.7 |
| 6 | 478 | 71.1 | 10.8 | 7.5 | 4.0 | 6.6 | 99.4 | 81.0 | 63.0 |
| 7 | 508 | 70.4 | 11.2 | 6.9 | 4.7 | 6.7 | 98.4 | 72.8 | 57.2 |
| 8 | 455 | 70.0 | 14.1 | 8.6 | 3.1 | 4.2 | 97.6 | 63.2 | 49.8 |
| 9 | 457 | 69.5 | 12.9 | 10.3 | 2.6 | 4.6 | 99.1 | 54.8 | 45.8 |
| 10 | 418 | 71.7 | 14.9 | 7.0 | 4.3 | 2.2 | 98.8 | 51.6 | 42.0 |
| 11 | 470 | 72.2 | 17.5 | 6.9 | 2.3 | * | 99.1 | 48.1 | 38.3 |
| 12 | 196 | 82.1 | 12.8 | * | * | * | 99.0 | 52.2 | 46.1 |
| 13 | 9 | * | - | - | - | - | * | 55.6 | 55.6 |
| 14 | 1 | * | - | - | - | - | * | * | * |
| 15 or more | 3 | * | - | - | - | - | * | * | * |

- ¹ Legend: d - decayed deciduous teeth
D - decayed permanent teeth
m - deciduous teeth missing due to caries
M - permanent teeth missing due to caries
f - deciduous teeth restored due to caries
F - permanent teeth restored due to caries
dmft - decayed, missing or filled deciduous teeth
DMFT - decayed, missing or filled permanent teeth

- ² Data are weighted to correct for the over-representation in the sample of children for whom date of birth is unknown. Data relating to second or subsequent examinations of children within this reporting period are eliminated.

TABLE 6: FISSURE SEALANTS: AGE-SPECIFIC PREVALENCE¹

This table uses Territory-wide data to describe the distribution of fissure sealants for individual (year of birth) ages, along with the caries experience of those who have fissure sealants and those who do not. Indices are calculated from data collected over a 6 month period. Where children received more than one examination during this period, the information derived from examinations other than the first is excluded. Age-specific indices denoted with an asterisk (*) are those in which the relative standard error exceeds 25 per cent, and population estimates of these indices are statistically unreliable.

State/Territory AUSTRALIAN CAPITAL TERRITORY

Sampling Ratio: 1:1.9

Data for period August-December 1989

Date of Report: August 31, 1990

| Age (years) | Number of Children in Sample ² | Number of Sealants | | CHILDREN WITH DMFT=0 | | CHILDREN WITH DMFT=1+ | |
|----------------|---|-----------------------|------|-------------------------|------------------|--------------------------|------------------|
| | | mean | sd | Number | % with F/S=1+ | Number | % with F/S=1+ |
| 6 | 478 | * | * | 463 | * | 15 | * |
| 7 | 508 | * | * | 465 | 3.0 | 43 | * |
| 8 | 455 | 0.23 | 0.87 | 380 | 6.3 | 75 | 14.7 |
| 9 | 457 | 0.28 | 0.92 | 345 | 8.4 | 112 | 13.4 |
| 10 | 418 | 0.27 | 0.90 | 294 | 8.8 | 123 | 10.6 |
| 11 | 470 | 0.32 | 1.01 | 289 | 8.7 | 181 | 14.4 |
| 12 | 196 | 0.24 | 0.81 | 109 | 10.1 | 87 | 9.3 |
| 13 | 9 | - | - | 6 | - | 3 | - |
| 14 | 1 | - | - | 1 | - | 0 | - |
| 15 | 3 | - | - | 1 | - | 2 | - |

¹ Legend:DMFT - decayed, missing or filled permanent teeth

² Legend: F/S - number of fissure sealed teeth
sd - standard deviation

TABLE 7: IMMEDIATE TREATMENT NEEDS: AGE-SPECIFIC DISTRIBUTION¹

This table, based on Territory-wide data, describes the number and proportion of children in immediate need of dental treatment. This classification is accorded to children who have, or who are likely to develop within four weeks, oral pain or infection. The dental caries experience of this group of children is also described. Indices are calculated from data collected over a 6 month period. Where children received more than one examination during this period, the information derived from examinations other than the first is excluded. Age-specific indices denoted with an asterisk (*) are those in which the relative standard error exceeds 25 per cent, and population estimates of these indices are statistically unreliable.

State/Territory AUSTRALIAN CAPITAL TERRITORY

Sampling Ratio: 1:1.9

Data for period August-December 1989

Date of Report: August 31, 1990

CHILDREN IN NEED OF IMMEDIATE TREATMENT

| Age (years) | Number of Children in Sample | No. | % of all children | dmft | | DMFT | | % with d+D= | | | | |
|-------------|------------------------------|-----|-------------------|------|------|------|------|-------------|---|---|---|------|
| | | | | mean | sd | mean | sd | 0 | 1 | 2 | 3 | 4+ |
| 4 | 24 | 6 | 24.6 | * | * | - | - | - | - | * | * | 66.7 |
| 5 | 309 | 6 | * | * | * | - | - | - | * | * | - | * |
| 6 | 478 | 11 | 2.3 | 4.09 | 2.02 | - | - | - | * | * | * | * |
| 7 | 508 | 4 | * | * | * | * | * | * | * | - | - | * |
| 8 | 455 | 14 | 3.1 | 4.43 | 3.16 | * | * | * | * | * | - | * |
| 9 | 457 | 10 | 2.2 | * | * | * | * | 60.0 | * | - | - | * |
| 10 | 418 | 10 | 2.4 | * | * | * | * | * | - | * | * | - |
| 11 | 470 | 14 | 3.0 | * | * | 1.57 | 1.22 | 64.3 | * | * | - | - |
| 12 | 196 | 4 | * | - | - | * | * | * | - | - | - | - |
| 13 | 9 | 0 | * | - | - | - | - | - | - | - | - | - |
| 14 | 1 | 0 | * | - | - | - | - | - | - | - | - | - |
| 15 | 3 | 1 | * | - | - | * | * | * | - | - | - | - |

¹ Legend: dmft - number of decayed, missing or filled deciduous teeth
 DMFT - number of decayed, missing or filled permanent teeth
 d - number of decayed deciduous teeth
 D - number of decayed permanent teeth

**TABLE 8: SCHOOL DENTAL SERVICE EXAMINATIONS:
AGE-SPECIFIC DISTRIBUTION¹**

This table describes the percentage distribution of children who have received dental examinations within specified time periods. Data from all examinations of children who were examined during the report period are included in this table; percentage estimates denoted with an asterisk (*) are those in which the relative standard error exceeds 25 per cent, and population estimates of these percentages are statistically unreliable.

State/Territory AUSTRALIAN CAPITAL TERRITORY

Sampling Ratio: 1:1.9

Data for period August-December 1989

Date of Report: August 31, 1990

| Age (years) | Number of Children Examined | PREVIOUS EXAMINATION IN SCHOOL DENTAL SERVICE | | | CHILDREN WITH KNOWN DATE OF PREVIOUS EXAMINATION | | | |
|----------------|-----------------------------------|--|------|---------|---|------|-------|-----|
| | | % of children | | | Months since last examination ² (%) | | | |
| | | No | Yes | Unknown | 0-6 | 7-12 | 13-24 | 25+ |
| 4 | 24 | 98.4 | * | - | - | - | - | - |
| 5 | 309 | 78.8 | 12.4 | 8.8 | * | 80.7 | * | - |
| 6 | 481 | 33.1 | 56.5 | 10.4 | * | 40.7 | 56.3 | * |
| 7 | 509 | 6.5 | 82.9 | 10.6 | * | 35.6 | 61.5 | * |
| 8 | 464 | 7.1 | 85.5 | 7.3 | 2.3 | 33.1 | 60.6 | 4.0 |
| 9 | 459 | 4.8 | 84.9 | 10.3 | * | 26.5 | 67.9 | 5.1 |
| 10 | 421 | 5.5 | 87.1 | 7.4 | * | 21.9 | 73.0 | 3.3 |
| 11 | 475 | 6.1 | 86.1 | 7.8 | * | 26.4 | 66.2 | 5.6 |
| 12 | 207 | 6.3 | 83.5 | 10.2 | 7.5 | 18.6 | 71.0 | * |
| 13 | 9 | * | * | * | - | * | - | * |
| 14 | 1 | - | * | - | - | * | - | - |
| 15 | 3 | * | * | * | - | - | - | - |

¹ Data are weighted to correct for the over-representation in the sample of children for whom date of birth is unknown.

² Excludes those with no previous examination and where the date of previous examination is unknown.